Awareness and Preventive Practices regarding Pneumonia among Mothers' of under 5 Year Children in Surkhet, Nepal

Bhawana Bhandari[1*], Sapana Thapa[2], Anil Babu Ojha[3], Pratikshya Dangi[4]

[1]Assistant Professor, Hope International College, Email: bhandaribhawana114@gmail.com
[2]Registered Nurse, Bachelor of science in Nursing, Email: thapasapana515@gmail.com
[3]Consultant Anesthesiologist, Siddhi Women's and Children's' Hospital, Email: dranilanesthesia@gmail.com
[4]Assistant Professor, Sanjeevani College of Medical Sciences, Email: pratikshyadangi40@gmail.com
Corresponding Author: Email: bhandaribhawana114@gmail.com ORCID: https://orcid.org/0009-0002-8652-6355

Abstract

Pneumonia has become one of the major common health problem among children under five years of age. Pneumonia accounts for 19% of all under-five deaths worldwide. Around 6.5 million deaths of under five children are due to Pneumonia. To assess the Awareness and Preventive Practice regarding Pneumonia among Mother's of under 5 year Children. Descriptive, cross-Sectional study was adopted for the study.172 samples were selected by using purposive non probability sampling technique. Self developed semi-structured questionnaire was used to collect data through interview technique. Data analysis was done in SPSS version 20. Descriptive and inferential statistics was used to analyze the data. It showed that 52 (49.5%) respondents had adequate level of awareness and 53 (50.5%) respondents had moderate level of awareness about Pneumonia. Regarding preventive practice 101(96.2%) respondents had always consulted their doctors when their child had cough 104(99%) of respondents visited doctor only when symptoms arise,104 (99%) respondents practiced honey water to relieve cough. 96 (91.4%) of respondents took their children to private hospital for treatment, (96.2%) believed healthy diet as a preventive measure, physical activity, sanitation and vaccination could prevent pneumonia which accounts 60 (57.1%), 88 (83.8%) and 49 (46.7%) respectively ,93(88.6%) respondents keep children in room with doors closed to kept the room warm ,12(11.4%) respondents kept room with open windows and doors to help a sick child at home. Also, 101(96.2%) respondents used cold sponge to reducing fever when the child has pneumonia, 105(100%) respondents kept children aware from crowded place to prevent child from dust allergy followed by using masks (97.1%). Half of the respondents had high level of awareness about pneumonia and half of them had low level of awareness. There was no any association found between awareness level and socio- demographic variables.

Keywords: Awareness, Preventive, Practice, Pneumonia, Mother, Children Under 5

Introduction

Globally, pneumonia is responsible for about 19% of all under- five deaths. Lack of education and knowledge about the danger signs and symptoms among the caregivers causes further delay in care seeking (Kajungu, D., Nabukeera, B., & Muhoozi, M., et.

al.,2023).Mother's knowledge about measures like good hygiene practice, exclusive breast feeding and immunization may significantly reduce the mortalities and morbidities resulting from Pneumonia (Akand et al., 2020). It was estimated that pneumonia kills 900,000 under-five children each year worldwide. Approximately 172 deaths per 1,000 live births occur in sub-Saharan African countries, with pneumonia being the major cause (Solomon, Kofole, Fantaye, & Ejigu, 2022).

Nepal is one of the few countries with impressive reduction of under-five mortality, with current rate of 28 deaths per 1000 live births. Since Nepal aims to reduce under-five mortality to 25 per 1000 live births by 2030 as part of the Sustainable Development Goals (SDGs), understanding and addressing socio-economic, demographic and the underlying causes of childhood illness is important (Dharel, Shrestha, & Basel, 2023).

Maternal education has played a vital role in determining child health. Mother is one who will be in contact with child for most of the time. She is primary caregiver; any deviation in the health of children is first recognized by their mothers. So the purpose of this research work is to assess the knowledge regarding pneumonia among the mother of Under 5 year children.

Methods

It was Quantitative, descriptive, cross-sectional research design conducted between 27th October 2023 to 30th November 2023. The research was conducted in Birendranagar Municipality Ward No. 2. The area was selected by using convenient sampling technique and the respondents were selected purposely in the study. Sample size was determined by using Cochran Formula. The total sample size was 172. Reliability and validity of tool was checked before administering the questionnaire. Ethical clearance and permission from the concerned authority was taken prior to study. Self developed structured knowledge questionnaire was used to collect information by using interview technique. Each response score with 1 for correct answers and 0 for incorrect answers. The total score of awareness was calculated. The awareness level was classified into 3 levels.i.e. adequate aware, moderate aware and inadequate aware. The respondents score 80 or > 80% (60 or above) was categorized as adequate aware, those with score ≥ 50 – 79% (37.5 - 59.25) was categorized as moderate aware level (Amuka, Onguru, & Ayodo, 2020).After the collection of data, it was edited, organize, coded and entered in MS Excel and transported to statistical package for the social science (SPSS) Software Latest Version 20.0 for analysis. The collected data was analyzed through simple descriptive statistics like frequency, percentage mean and standard deviation and inferential statistics for association.

Results

Table 1
Socio-demographic Characteristics of Respondents

n=105

Characteristics	Categories	Frequency(f)	Percentage(%)
Age group in year	16-25	39	37.1
	26-35	55	52.4
	36-45	11	10.5
Mean age of the responded± SD=			27.70±5.57
Education of head	Professional degree	1	1.0

of family			
	Graduate or post-graduate	2	1.9
	Intermediate or post high school diploma	29	27.6
	High School Certificate	5	4.8
	Middle school certificate	17	16.2
	Primary school certificate	24	22.9
	Illiterate	27	25.7

Table1 illustrated the socio-demographic information of the respondents. Out of 105 respondents, 55(52.4%) of them were from age group of 26-35 and 11 (10.5%) were from age group range 36-45 years. The mean age of the participants was 27.70±5.57. years with the age range of 16 to 45 years. Also, 29(27.6%) of head of family had intermediate or post high school diploma while 27(25.7) were illiterate, 24(22.9) had primary school certificate and 17(16.2) had middle school certificate.

Table 2
Socio-economic Characteristics of Respondents

$n=105$

Characteristic	Categories	Frequency(f)	Percentage(%)
Occupation of head of family	Professional	7	6.7
	Semi-Professional	21	20.0
	Clerical,shop-owner\far	9	8.6
	Skilled worker	24	22.9
	Semi-skilled worker	30	28.6
	Unskilled worker	9	8.6
	Unemployed	5	4.8
Monthly Income	RS.47348-above	4	3.80
	Rs.23674-47347	10	9.5
	Rs.17756-23673	21	20.0
	Rs.11837-17755	27	25.7
	Rs.7102-11836	11	10.5
	Rs.2391-7101	22	21.0
	Less than 2390	10	9.5
Socio-economic status score			
26-29	Upper class	-	-
16-25	Upper middle	1	1.0
11-15	Lower middle	66	62.9
5-10	Upper lower	5	4.8
Below5	Lower	33	31.4

Table 2 illustrated the occupation and monthly income of the head of family. It showed that 30(28.6%) of respondent's head of the family were engaged in semi-skilled worker while

minorities 5(4.8%) of respondents were unemployed 27(25.7%) respondents had a monthly income of Rs.11837-17755 while only 4(3.80%) respondents had a high level of monthly income of Rs47348-above, 66(62.9) of respondent belonged to lower middle class, 33(31.4) belonged to lower class, 5(4.8) belonged to upper lower class and 1 (1.0) belonged to upper middle.

Figure 1.
Distribution of the Respondents on the basis of Religion
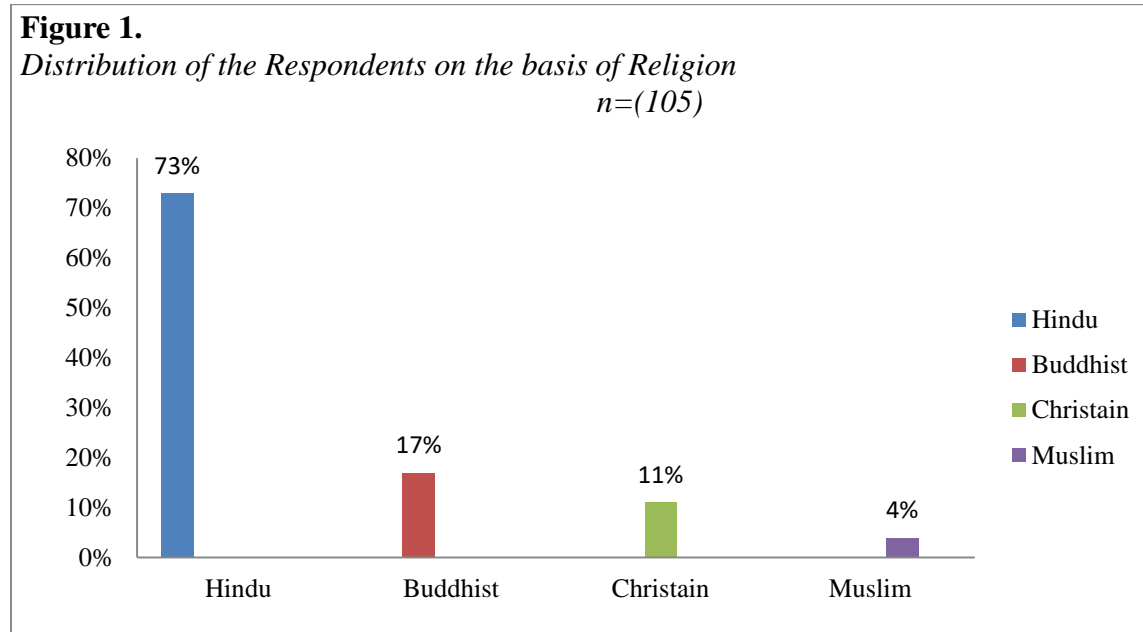*n=(105)*

Figure 1 showed the distribution of the respondents on the basis of religion. 73(69.5%) followed Hindu religion, 17(16.2%) respondents followed Buddhism, 11(10.5%) of them followed Christianity and remaining 4(3.9%) respondents followed Islam (Muslim).
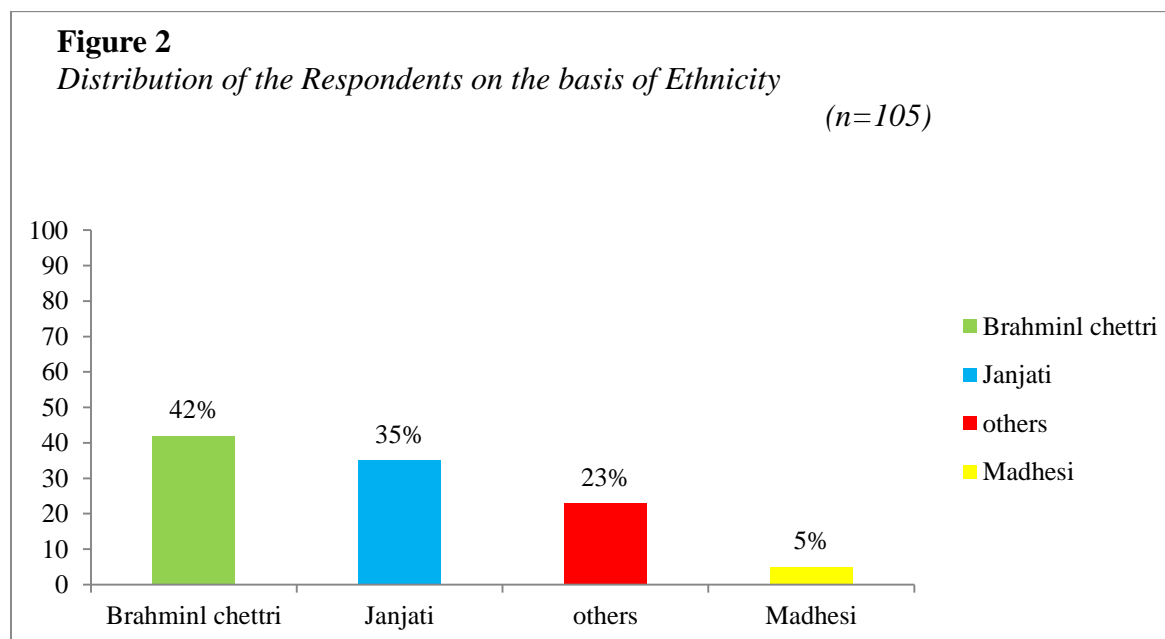

Figure 2
Distribution of the Respondents on the basis of Ethnicity
(n=105)

Figure 2 showed the distribution of the respondents on the basis of Ethnicity where 42(40.0%) of respondents were Brahmin\Chhetri, 35(33.3%) of respondents were Janjati,

5(4.8%) respondents were Madhesi and remaining 23(21.9%) respondents were from other ethnicity

Figure 3
Distribution of Respondent on basis of Family type n=(105)
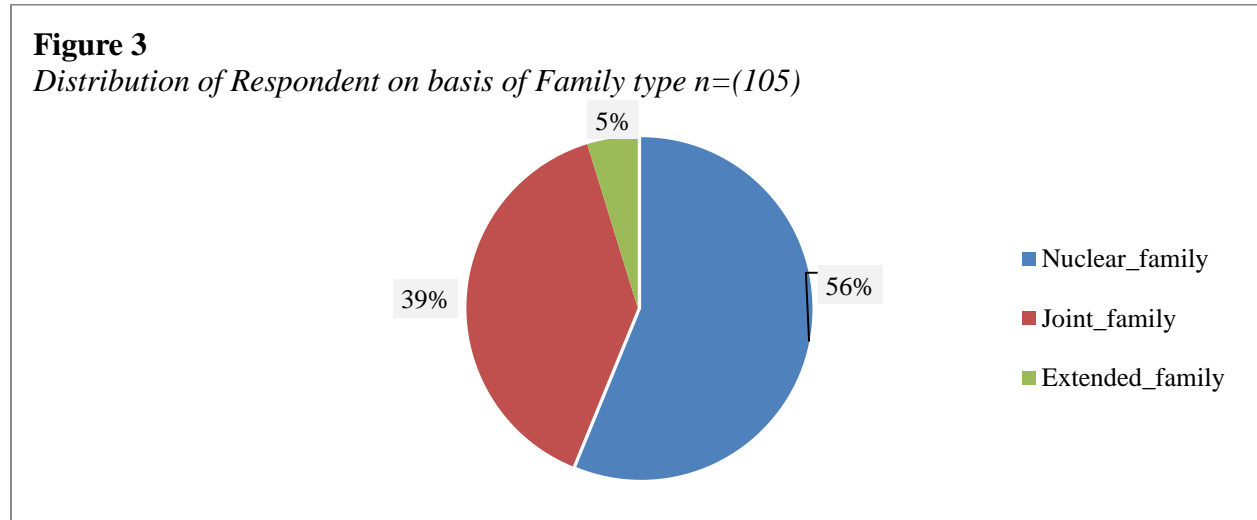

Figure 3 showed the distribution of the respondents on the basis of types of family where 56% were from Nuclear Family, 39% were from Joint family and remaining 5% were from Extended Family.
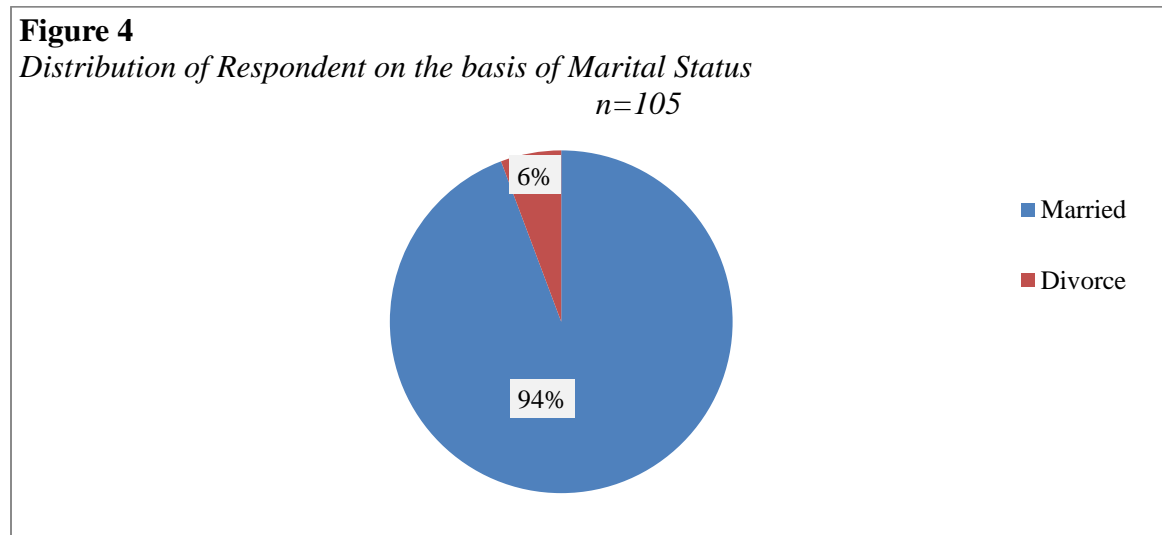
Figure 4
Distribution of Respondent on the basis of Marital Status
n=105

Figure 4 demonstrated the distribution of the respondents on the basis of marital status where 94% were married while 6% were divorced.

Table 3

Awareness regarding Pneumonia among Mothers of Under 5 children

n=105

Characteristics	Categories	Frequency(f)	Percentage(%)
Information about Pneumonia	Yes	105	100.0
	No	-	0.0
Source of information about Pneumonia*	Media	59	56.2
	Health Facilities	67	63.8
	Neighbour	61	58.1
	Friends	44	41.9
	Other	55	52.4
Meaning of Pneumonia*	Chest in drawing	29	27.6
	Difficulty in breathing	51	48.6
	Cough	31	29.5
	Fever	27	25.7
	Rapid Breathing	21	20.0
Pneumonia is	Communicable	44	41.91
	Non-communicable	61	58.09
Organ of the body get affected in Pneumonia	Heart	1	0.95
	Lungs	80	76.2
	Liver	1	0.95
	Others	23	21.9
Risk factors of Pneumonia*	Indoor air pollution	90	85.7
	Parental smoking	74	70.5
	Living in crowed home	52	49.5
Cause of Pneumonia*	Cold	97	92.4
	Micro-organisms	33	31.4
	Dust\smoking	97	92.4
	Malnutrition	10	4.21
Identification of the child suffering from Pneumonia*	Cough	31	29.5
	Fasting breathing	91	86.7
	Fever	73	69.5
	Difficulty in breathing	94	89.5
The primary preventive measures of Pneumonia*	Good hygiene	101	96.2
	Quitting smoking	97	92.4
	Regular physical activities	11	3.67
	Healthy eating habits	85	81.0
Vaccine prevents Pneumonia	Yes	100	95.2
	Don't know	5	4.8
Place to seek treatment from Pneumonia*	Home	1	0.67
	Primary health care	91	86.7
	Tertiary health care centers	3	2.9
	Traditional healers	55	21.65

*Multiple response

Table 3 showed awareness regarding pneumonia among mother under 5 children where 105(100%) respondents had information about pneumonia and majority of them got the information 67(63.8%) from health facilities while 44(41.9%) were from friends. Nearly half 51(48.6%) respondents had understood pneumonia as difficulty in breathing and 21(25.7%) said that pneumonia was a rapid breathing 44(41.91%) respondents said that pneumonia is a communicable disease and more than half 61(58.09%) said that pneumonia is a non-communicable disease. Majority (76.2%) of them reported that lungs gets affected in pneumonia and Majority 90 (85.7%) respondents said that indoor air pollution was a major risk factor of pneumonia followed by parental smoking (49.5%). Most of the respondents 97(92.4%) answered cold and dust/ smoking were the main cause of pneumonia and Majority of respondents 94(89.5%) said that difficulty in breathing was the identifying sign that child is suffering from pneumonia followed by fast breathing (86. 7%).It shows that almost all 101(96.25) respondents believed that maintaining good hygiene prevents pneumonia. Also, it shows that majority 91(86.7%) respondents believed that primary health care centre is the best place to treat pneumonia while only 3(2.9%) respondents said tertiary health centers might be the better option to treat Pneumonia and still 55 (21.65%) reported to visit traditional healers.

Table 4

Awareness level regarding Pneumonia among Mothers' of Under 5 children

Characteristics	Categories	Frequency(F)	Percentage(P)
Awareness Level	Adequate	52	49.5
	Moderate	53	50.5

Adequate Aware: score above 80%

Moderate Aware: score above 50-79%

Inadequate Aware : score below 50% (Amuka, Onguru, & Ayodo, 2020)

It showed that 52 (49.5%) respondents had adequate level of awareness and 53(50.5%) respondents had moderate level of awareness about Pneumonia.

Table 5

Preventive Practices regarding Pneumonia among Mothers' of Under 5 children

n=105

Characteristics	Categories	Frequency(f)	Percentage(%)
Did you vaccinate your child against Pneumonia	Yes	90	90
	No	10	10
Consult to the doctor if your child has cough	Yes	101	96.2
	No	4	3.8
Frequency of visit to doctor for screening for Pneumonia	Once a week	7	6.7
	Once a month	90	85.7
	Once a year	51	48.6
Home remedies practiced to prevent Pneumonia	When symptoms are present	104	99
	Get rest	21	20.0
	Honey water	104	99.0
	Turmeric milk	93	88.6

Place taken to children for treatment when symptoms is visible	Salt gargling	84	80.0
	Others	64	61.0
	Primary	64	61.0
	Private hospital	96	91.4
	Clinics	78	74.3
Prevention of Pneumonia	Others	105	100.0
	Vaccination	49	46.7
	Breastfeeding at least 2 years	60	57.1
	Healthy diet	101	96.2
Care of child when is suffering from Pneumonia	Sanitation	88	83.8
	In a room with window and doors closed to keep the room warm	93	88.6
	In a room with window and doors open as usual	12	11.4
Measures to reduce fever when child has Pneumonia	Cold Sponge	101	96.2
	Give more fluid	71	67.6
	Avoid using extra blankets	85	81.0
Measures done to prevent child from dust allergy	Light and loose clothing	63	60.0
	Use mask	102	97.1
	Aware from crowded place	105	100.0
	Change bed sheet once a week	55	52.4
	Wash your hand	55	52.4

Table 5 showed that 10 (10%) respondents didn't vaccinate their children against pneumonia. 101(96.2%) respondents had always consulted their doctors when their child had cough but some 4(3.8%) respondents never consulted doctors if they had cough, 104(99%) of respondents visited doctor only when symptoms arise while some of them had visited doctor once a week, once a month, once a year which accounts 7(6.7%), 9-(85.7%) and 51(48.6%) respectively. Almost all 104(99%) respondents believed that honey water can be used as a home remedies to prevent pneumonia. Majority 96 (91.4%) of respondents took their children to private hospital for treatment while all 105 (100%) respondents had taken their children in other place for treatment. Nearly all the respondents (96.2%) believed healthy diet as a preventive measures and also regular physical exercise, sanitation and vaccination could prevent pneumonia which accounts 60 (57.1%), 88 (83.8%) and 49 (46.7%) respectively. It showed that 93(88.6%) respondents said that children were kept in room with doors closed to keep the room warm while remaining 12(11.4%) respondents believed that room with open windows and doors might help if there is a sick child at home. Also, 101(96.2%) respondents said that they used cold sponge to reducing fever when the child has pneumonia. It shows that 105(100%) respondents believed that keeping children aware from crowded place would prevent child from dust allergy followed by using masks (97.1%).

Table 6
Association between Level of Awareness and Socio demographic Variables

Characteristics	Awareness level		χ^2	p- value
	Moderate n (%)	Adequate n (%)		
Age				
16-25 years	15 (38.7)	24 (61.5)	4.795	0.091
26-35 years	30 (54.5)	25 (45.5)		
36-45 years	8 (72.7)	3 (27.3)		
Religion				
Hindu	37 (50.7)	36 (49.3)	0.154	0.985
Buddhist	8 (47.1)	9 (52.9)		
Christian	6 (54.5)	5 (45.5)		
Muslim	2 (50.0)	2 (50.0)		
Ethnicity				
Brahmin/ Chhetri	22 (52.4)	20 (47.6)	3.815	0.282
Madhesi	4 (80.0)	1 (20.0)		
Janajati	14 (40.0)	21 (60.0)		
Others	13 (56.5)	10 (43.5)		
Family Type				
Nuclear Family	31 (52.5)	28 (47.5)	0.564	0.755
Joint Family	19 (46.3)	22 (53.7)		
Extended Family	3 (60.0)	2 (40.0)		
Marital Status				
Married	50 (50.5)	49 (49.5)	0.001	0.652
Divorce	3 (50.0)	3 (50.0)		
Education level of Family head				
Illiterate	15 (55.6)	12 (44.4)	0.375	0.540
Literate	38 (48.7)	40 (51.3)		

Table 6 showed no any statistical significant association between socio- demographic variables such as age, religion, ethnicity, family type, marital status and education level of family head and level of awareness.

Discussion

Half of the mothers (50.5%) had moderate level of awareness and half of them (49.5%) had adequate level of awareness about the pneumonia and its preventive measures which is contradictory to the study findings of the study done in Pakistan where mothers had poor knowledge about pneumonia and its preventive measures (Eliyas, Sherali, Khan, Khan, & Hashmi, 2018). This might be due to lack of proper information dissemination among mothers regarding the risks of pneumonia and its effects.

In the present study, there was no association found between socio demographic characteristics and awareness level. It contradicts to the study findings done in India where

significant association was found between mother's age and their level of knowledge on pneumonia (Pradhan et al., 2016). This might be due to the variation in sample population and characteristics.

Conclusion

This study concluded that almost all the mothers had information about the pneumonia. It is concluded that half of the participants had high level of awareness about pneumonia and half of them had low level of awareness. Some of the mothers were also aware about the preventive measures of pneumonia and had good knowledge about preventing pneumonia through vaccination, exclusive breastfeeding and to prevent their child from dust allergies. There was no any association found between awareness level and socio- demographic variables which imply that age, religion, ethnicity, family type, marital status and education level of family head are not associated with the awareness level among the mothers of under 5 children.

Conflict of Interest: None

Funding: None

References

Akand, N., Sarkar, P. K., Alam, M. J., Kamruzzaman, M., Hossain, M. M., & Islam, M. A. (2020). Mothers Knowledge Related to Preventive Measure of Pneumonia in Hospitalized Children Under 5 Years Age: A Tertiary Care Center Experience. *IOSR Journal of Nursing and Health Science, 9*(2), 7.

Amuka, D. O., Onguru, D., & Ayodo, G. (2020). Knowledge, Perceptions and Practices of Caregivers on Pneumonia among Children aged below 5 Years in Migori County Referral Hospital, Kenya. I*nternational Journal of Health Sciences and Research*, 10(11), 40-57

Kajungu, D., Nabukeera, B., Muhoozi, M., Ndyomugyenyi, D. B., Akello, M. C., Gyezaho, C., ... & Kasirye, R. (2023). Factors associated with caretakers' knowledge, attitude, and practices in the management of pneumonia for children aged five years and below in rural Uganda. *BMC Health Services Research*, 23(1), 700.

Dharel, S., Shrestha, B., & Basel, P. (2023). Factors associated with childhood pneumonia and care seeking practices in Nepal: further analysis of 2019 Nepal Multiple Indicator Cluster Survey. *BMC Public Health, 23*(1), 1-9.

Eliyas, A., Sherali, S., Khan, I., Khan, K., & Hashmi, F. (2018). Mothers knowledge related preventive measure of pneumonia in slum community, Karachi, Pakistan. *Pakistan Journal of Public Health, 8*(3), 156-159.

Pradhan, S. M., Rao, A. P., Pattanshetty, S. M., & Nilima, A. (2016). Knowledge and perception regarding childhood pneumonia among mothers of under-five children in rural areas of Udupi Taluk, Karnataka: A cross-sectional study. *Indian Journal of Health Sciences and Biomedical Research kleu, 9*(1), 35-39.

Solomon, Y., Kofole, Z., Fantaye, T., & Ejigu, S. (2022). Prevalence of pneumonia and its determinant factors among under-five children in Gamo Zone, southern Ethiopia, 2021. *Frontiers in Pediatrics, 10*, 1017386.